



Pavement Preservation
at the
Barry County Road
Commission

Heather Smith – Project Manager
Barry County Road Commission

Why do we use asphalt to build roads?

- **Durability**
- **Strength**
- **Flexibility**



**Is an asphalt
pavement ever as
good as the day you
put it down?**



Why do asphalt pavements fail?

Asphalt pavement deterioration begins immediately. Naturally liquid asphalt hardens over time, it becomes brittle, losing its flexibility.





**If there was a way for
Asphalt pavements to
retain their flexibility
forever....**



**Would they ever need
repairs?**

**Would they ever
crack?**

**Obviously there is no magic bullet,
but what if we could significantly
slow down and retard the
hardening of asphalt.**



GOOD
10, 9, 8

FAIR
7, 6, 5

POOR
4, 3, 2, 1

**Little or No
Maintenance**

**Capital Preventative
Maintenance**

**Heavy Rehabilitation
or Reconstruction**



Asphalt 6 – Good

- ◆ Longitudinal cracks open $\frac{1}{4}$ " – $\frac{1}{2}$ ".
- ◆ Transverse cracks open $\frac{1}{4}$ " – $\frac{1}{2}$ ".
- ◆ Transverse cracks less than 10' apart.
- ◆ First sign of block cracking.
Sound structural condition.
Blocks are large and stable.
Slight to moderate polishing or flushing.
No patches or few in good condition.
Slight raveling.

Remedy / Action

Maintain with sealcoat.

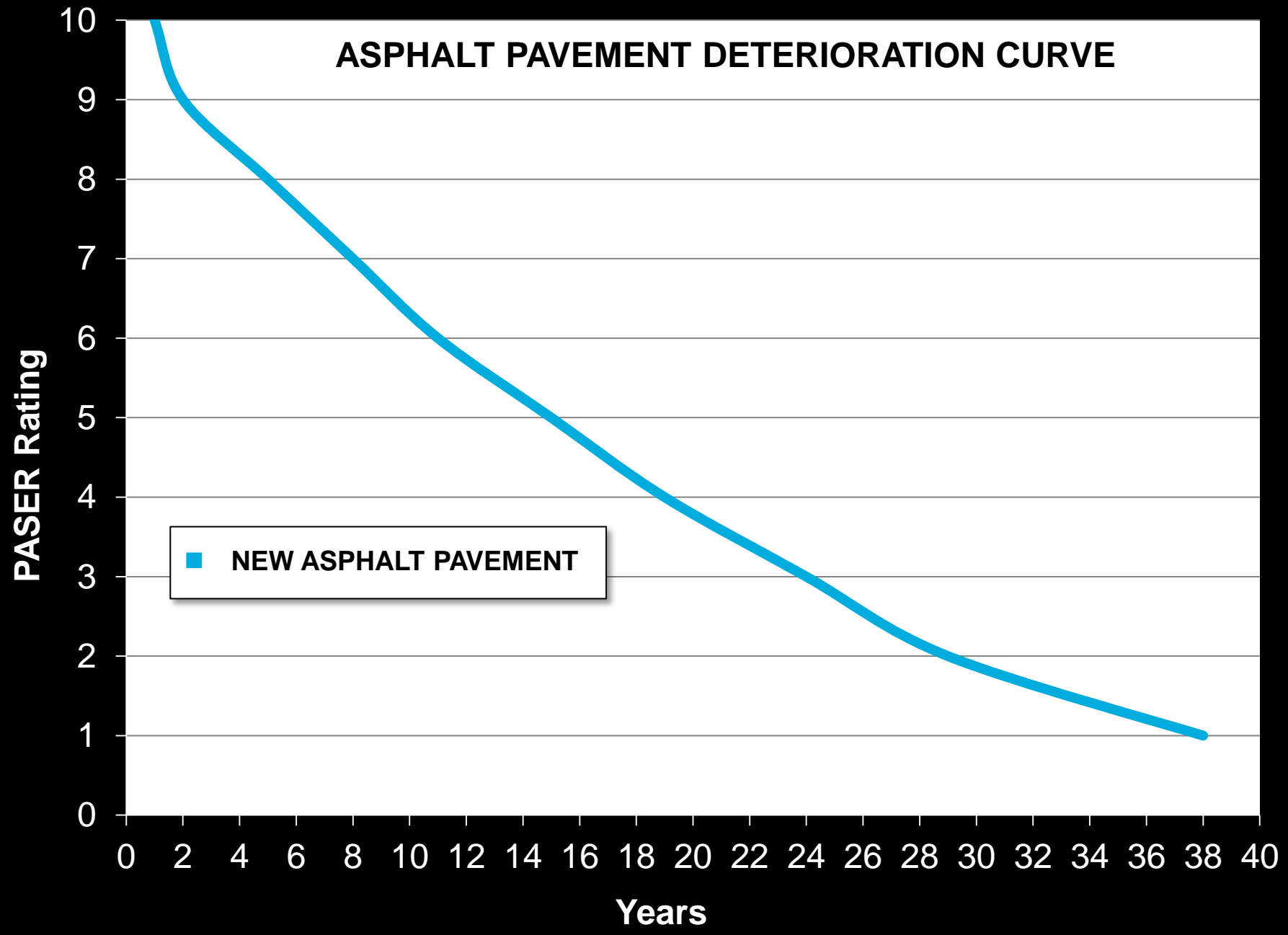
Asphalt 5 – Fair

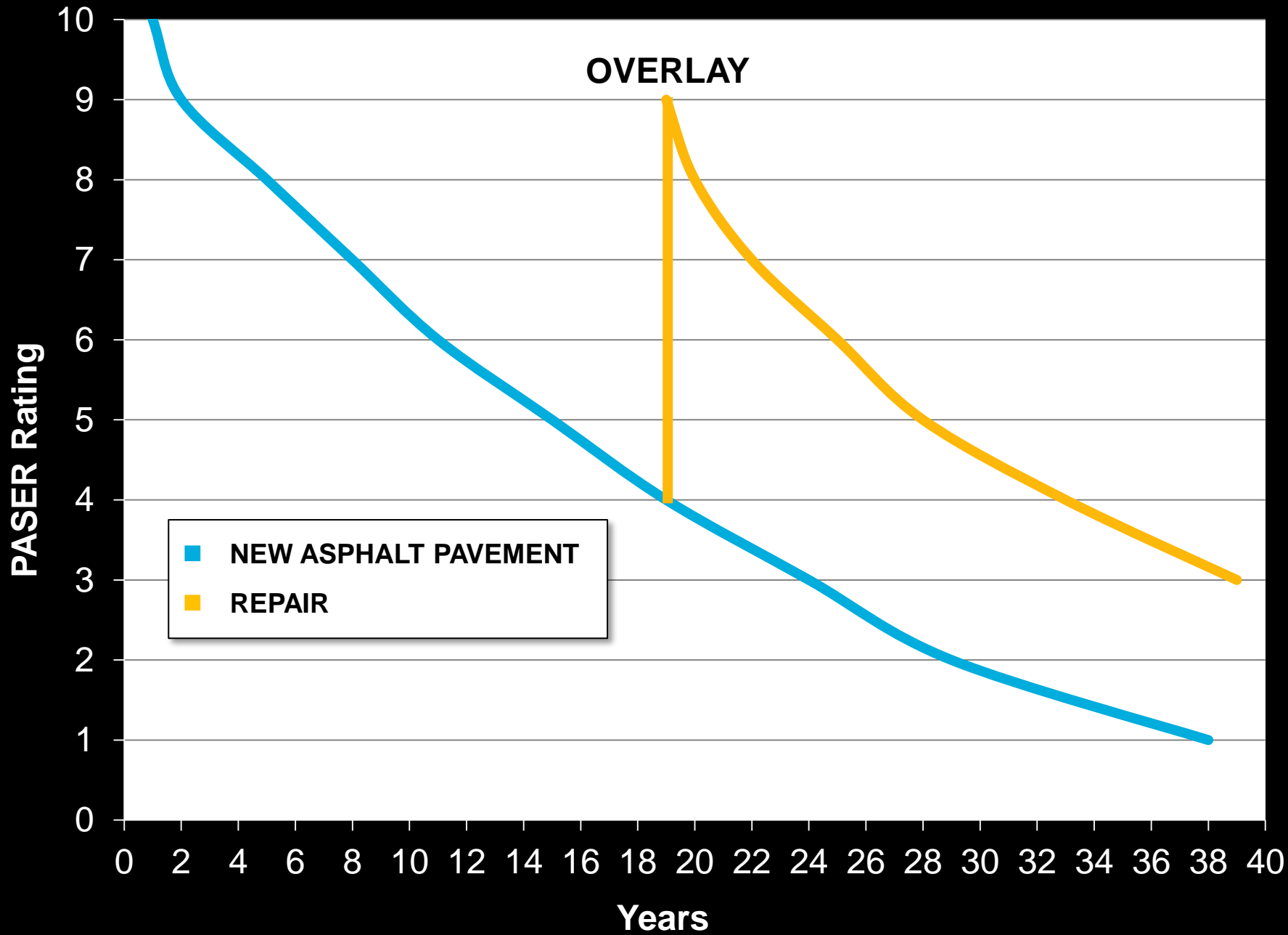
- ◆ Longitudinal cracks $>\frac{1}{2}$ ".
- ◆ Transverse cracks $>\frac{1}{2}$ ".
- ◆ Secondary cracks (crack raveling).
- ◆ $< 50\%$ of block cracking.
- ◆ First signs of longitudinal cracks at edges.
Sound structural condition.
Patching/wedging in good condition
Moderate raveling.
Extensive to severe flushing & polishing.

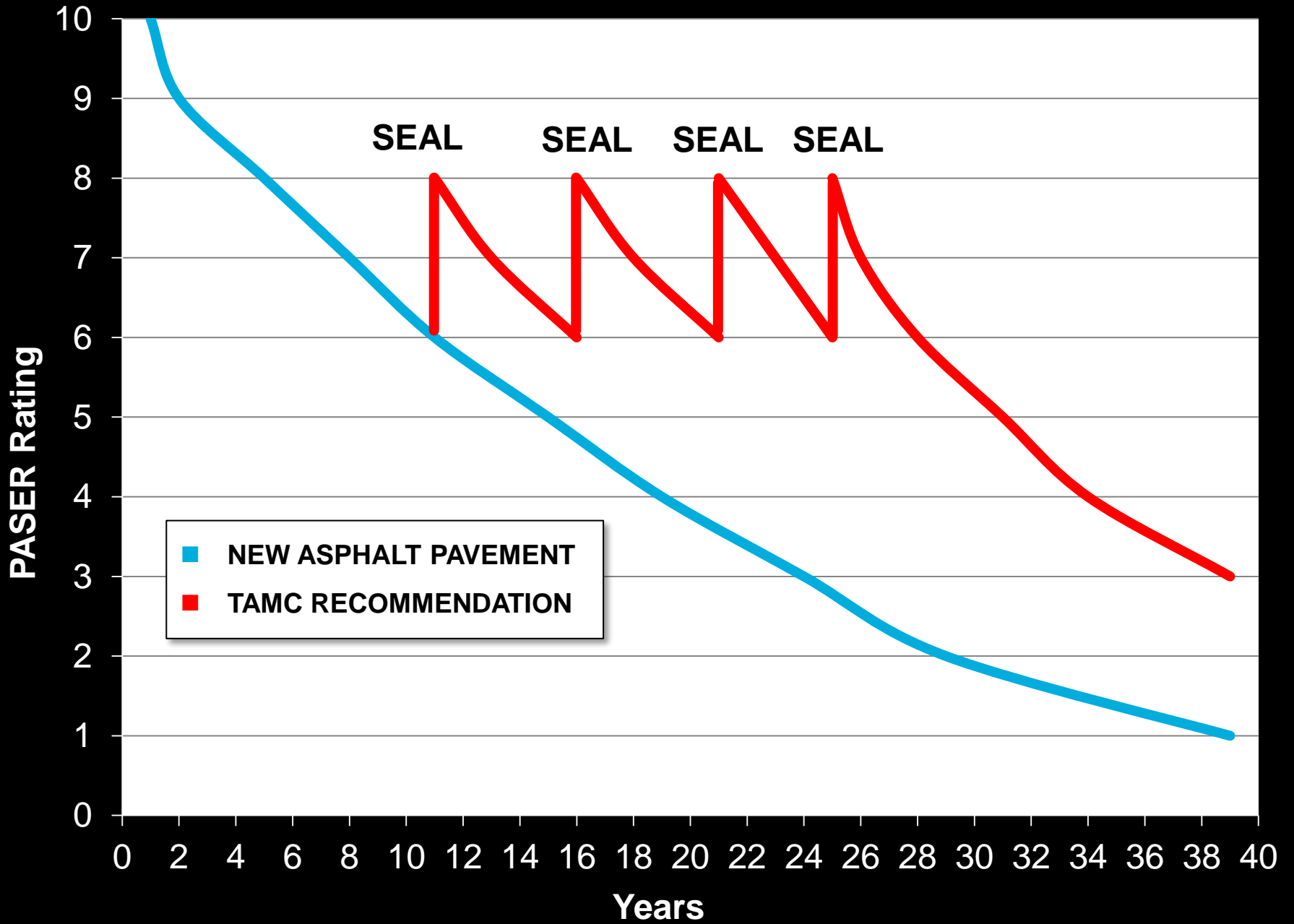
Remedy / Action

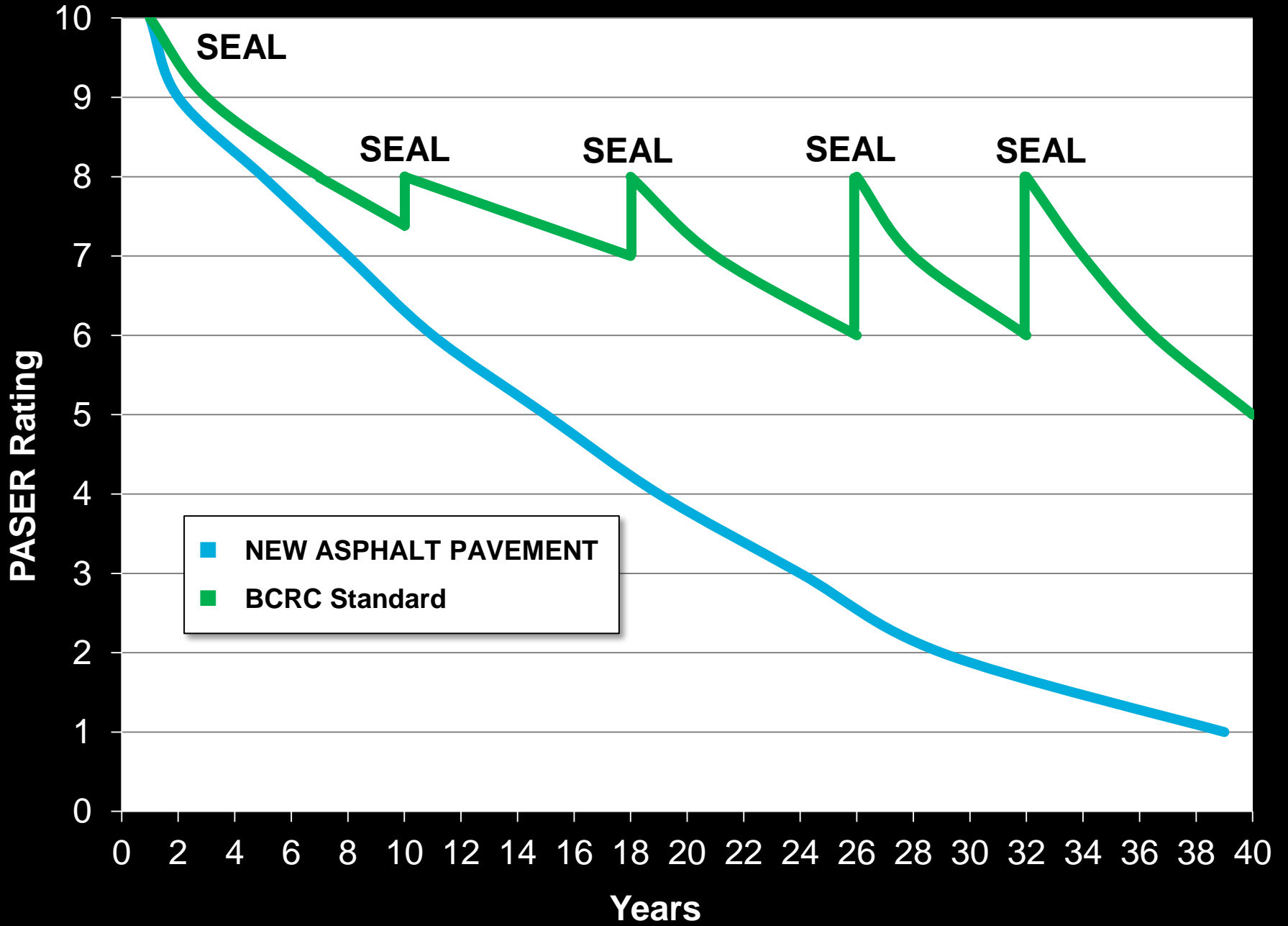
Maintain with sealcoat or thin overlay.

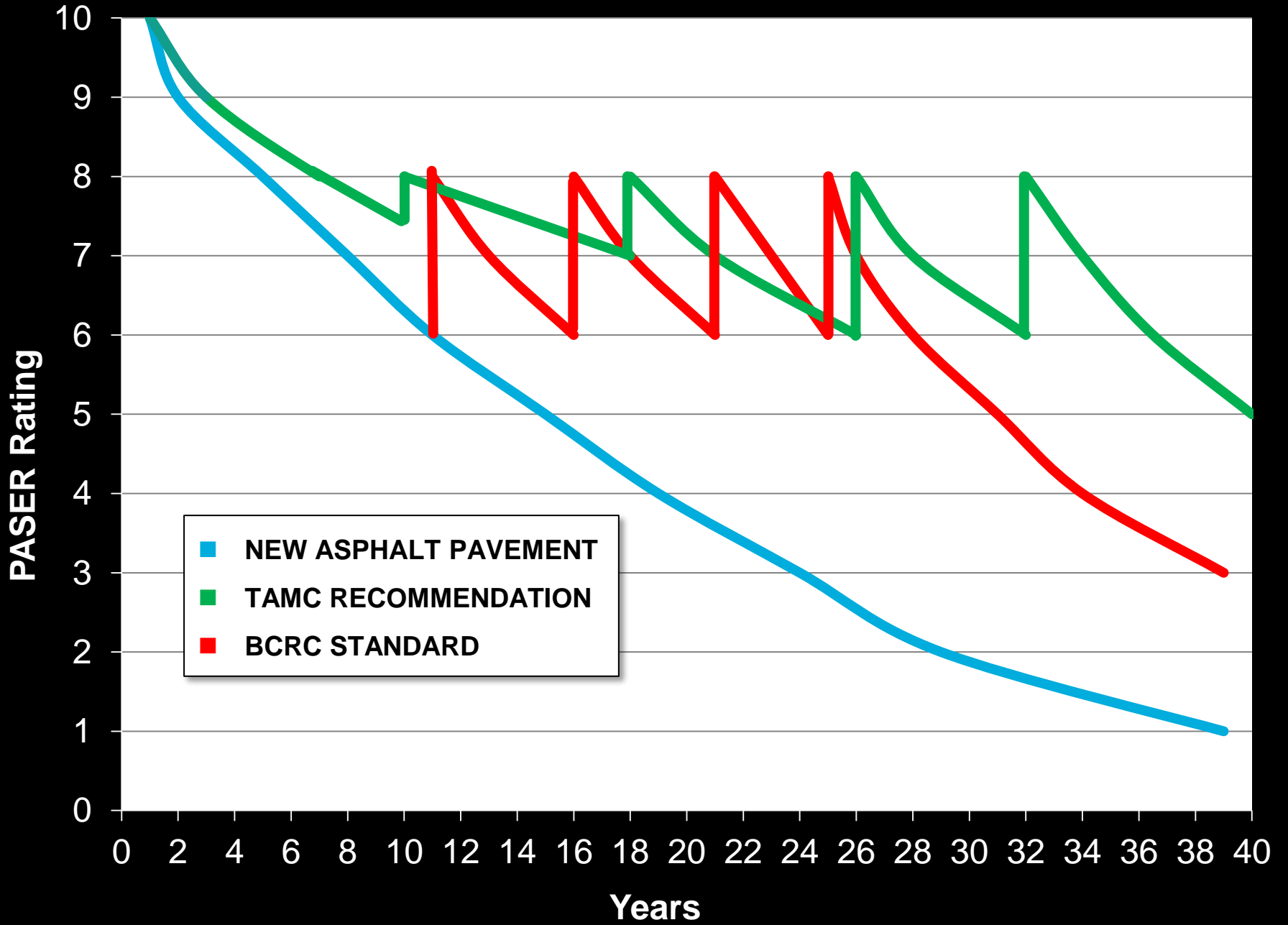
ASPHALT PAVEMENT DETERIORATION CURVE





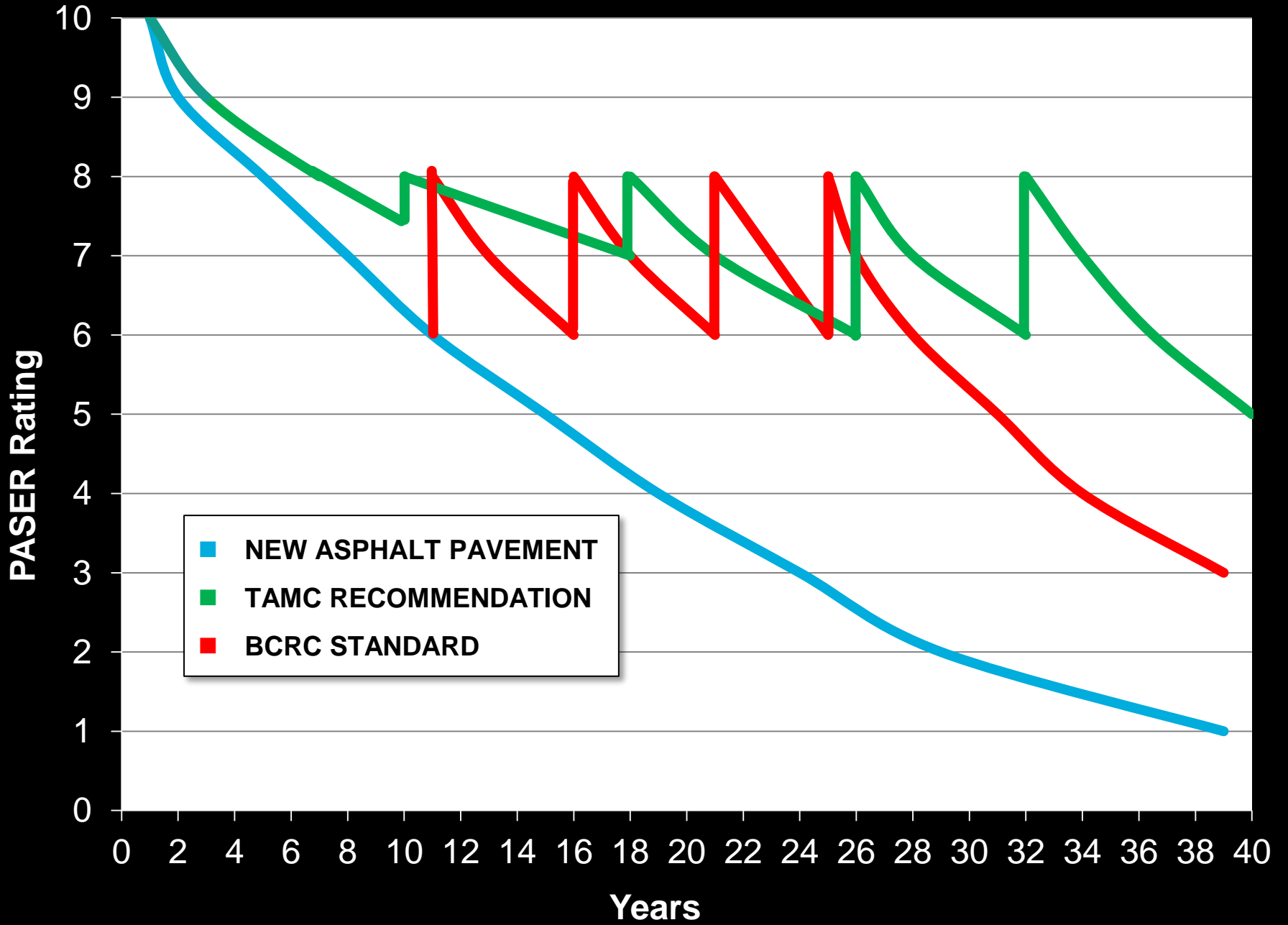


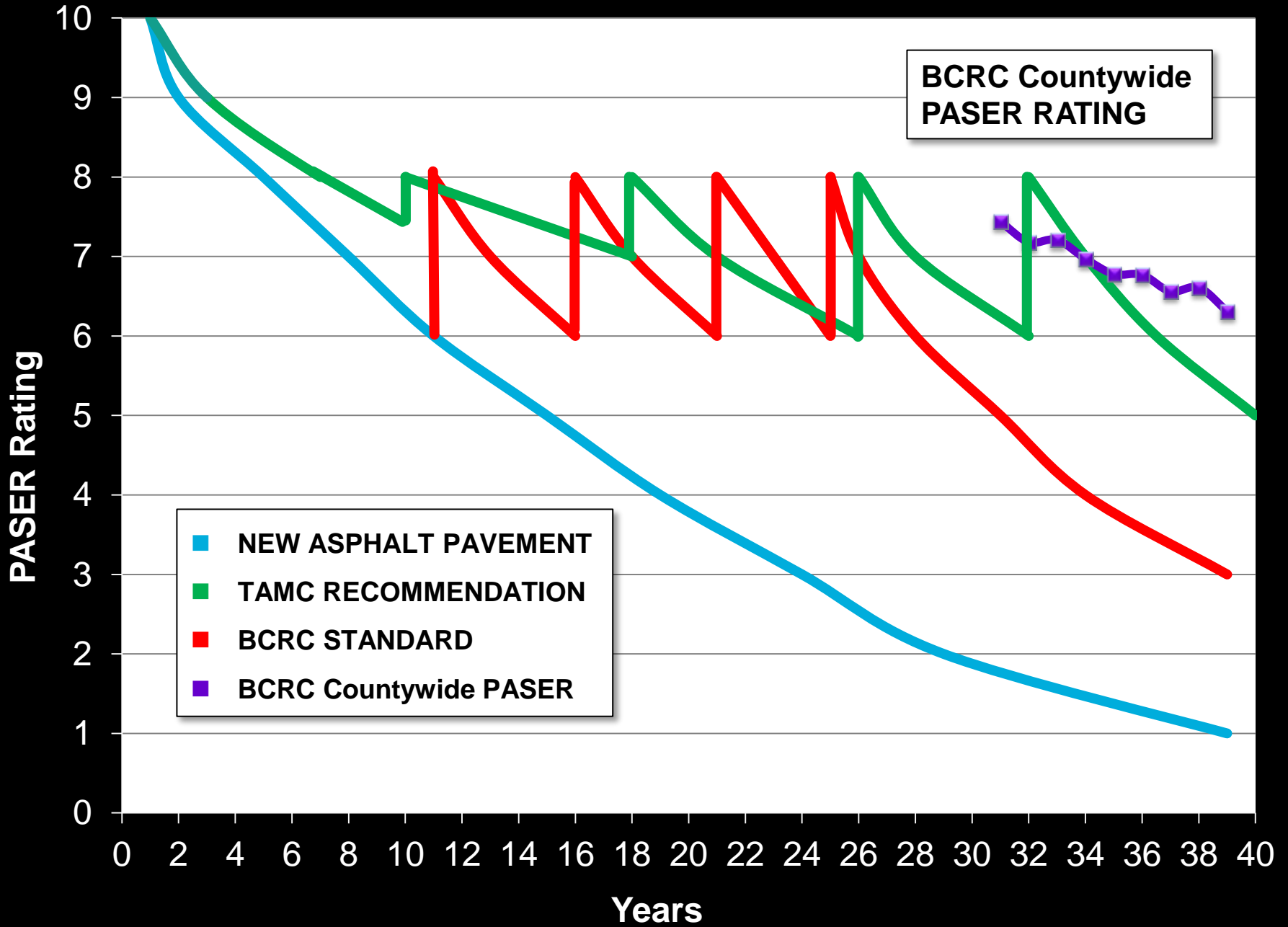




<u>Curve</u>	<u>PASER years-</u>	<u>% Additional Life</u>	<u>Surface & Repair \$</u>	<u>Cost /PASER year</u>
ASPHALT	140	N/A	\$200,000	\$1,429
OVERLAY	195	39%	\$323,000	\$1,656 (+16%)
Asset Management Recommended	220	57%	\$292,000	\$1,327 (-7%)
BCRC Practice	264	89%	\$315,000	\$1,193 (-17%)

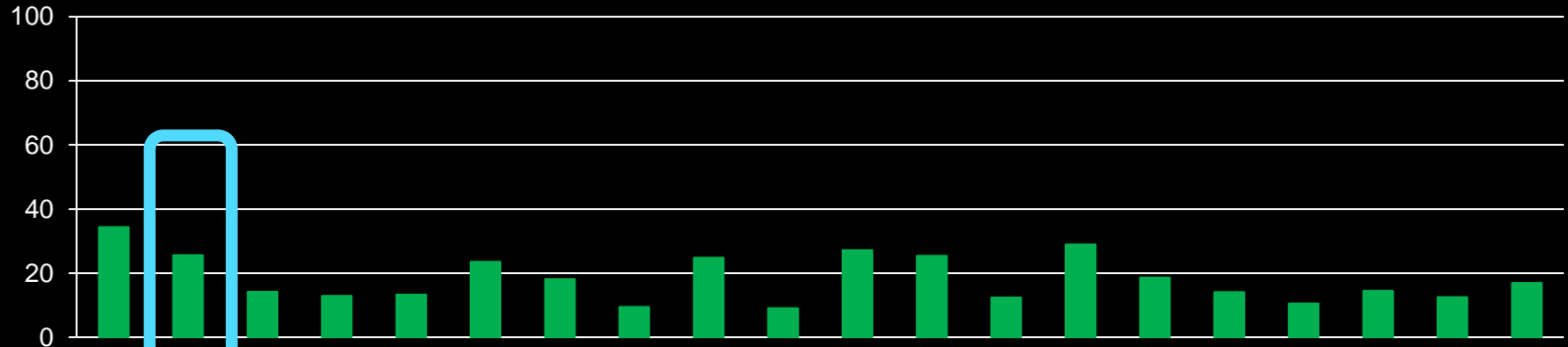
* In calculating the % additional cost, the repair costs were adjusted to 2012 dollars. In actuality, these repairs were more affordable in the earlier years, which was not considered and only strengthens these conclusions.



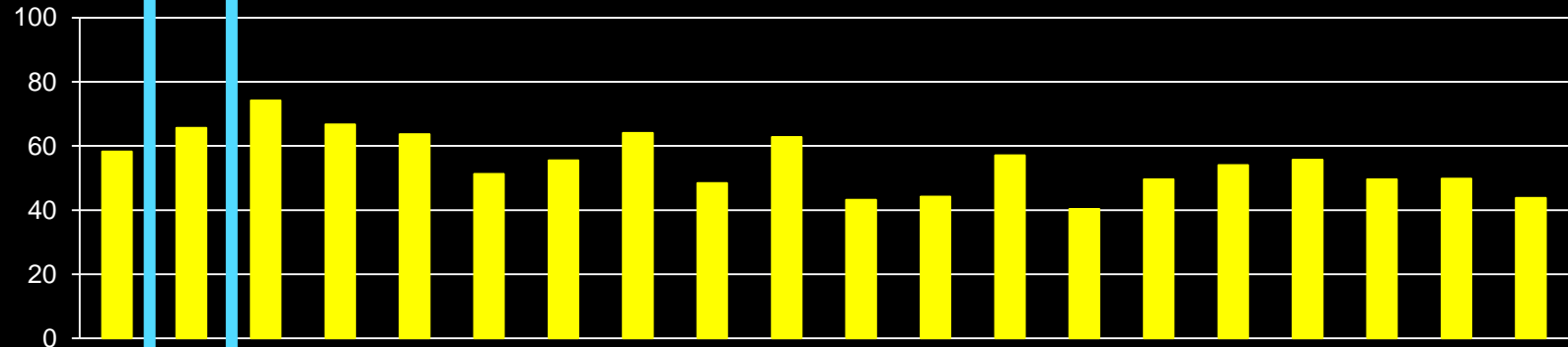


2010 TAMC Dashboard Data

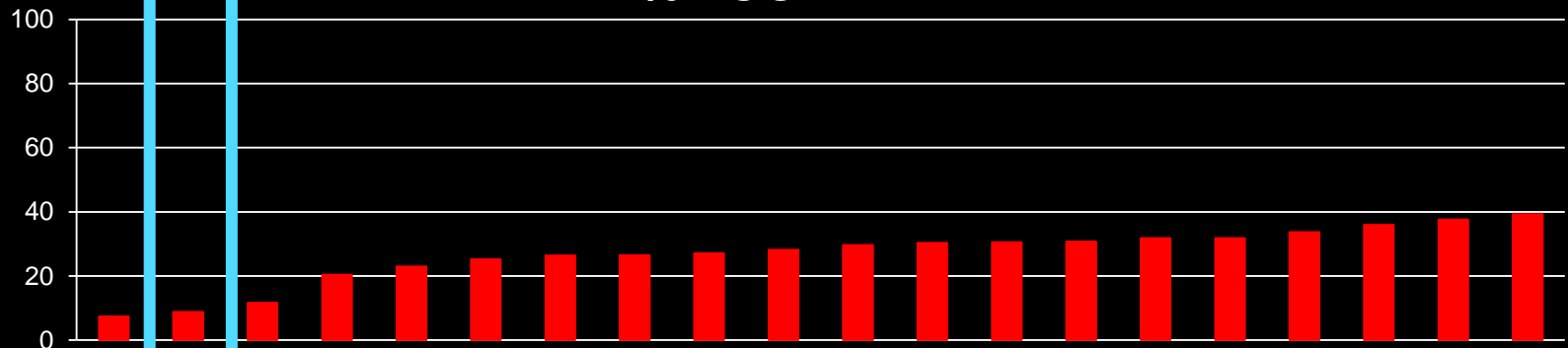
% GOOD



% FAIR



% POOR



Slag Seal Specs

MDOT

CSS-1H

34 CS

0.39-0.46 gal/syd

20-24 lb/syd

BCRC

HFE-150

25 A Slag

0.46 gal/syd

24 lb/syd



<http://www.mdt.mt.gov/publications/docs/manuals/chipseal.pdf>

**All new overlays and blade patches
should have a chip seal placed on them**

Conclusion

If you don't think your road commission can afford to do this strategy, that it's too expensive, I would encourage you to try it. Do a test section on an upcoming overlay and see for yourself.



Questions?





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